

Product datasheet for **RC204245**

MELK (NM_014791) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MELK (NM_014791) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MELK
Synonyms:	HPK38
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>RC204245 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCCGCATCGCC

ATGAAAGATTATGATGAACCTTCTCAAATATTATGAATTACATGAAACTATTGGGACAGGTGGCTTTGCAA
AGGTCAAACCTTGCTGCCATATCCTTACTGGAGAGATGGTAGCTATAAAAATCATGGATAAAAACACACT
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CAACTCTACCATGTGCTAGAGACAGCCAACAAAATATTTCATGGTCTTGGAGTACTGCCCTGGAGGAGAGC
TGTTTGACTATATAATTTCCAGGATCGCTGTGAGAAGAGGAGACCCGGGTTGTCTTCCGTGAGATAGT
ATCTGCTGTTGCTTATGTGCACAGCCAGGGCTATGCTCACAGGGACCTCAAGCCAGAAAATTTGCTGTTT
GATGAATATCATAAATTAAGCTGATTGACTTTGGTCTCTGTGCAAAACCAAGGTAACAAGGATTACC
ATCTACAGACATGCTGTGGGAGTCTGGCTTATGCAGCACCTGAGTTAATACAAGGCAAATCATATCTTGG
ATCAGAGGCAGATGTTTGGAGCATGGGCATACTGTTATATGTTCTTATGTGTGGATTTCTACCATTTGAT
GATGATAATGTAATGGCTTTATACAAGAAGATTATGAGAGGAAAATATGATGTTCCCAAGTGCTCTCTC
CCAGTAGCATTCTGCTTCTTCAACAAAATGCTGCAGGTGGACCCAAAGAAACGGATTTCTATGAAAATCT
ATTGAACCATCCCTGGATCATGCAAGATTACAACATCCTGTTGAGTGGCAAAGCAAGAATCCTTTTATT
CACCTCGATGATGATTGCGTAACAGAACCTTCTGTACATCACAGAAAACAAGGCAAAACATGGAGGATT
TAATTTCACTGTGGCAGTATGATCACCTCACGGTACCTATCTTCTGCTTCTAGCCAAGAAGGCTCGGGG
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AAGTCAAATAATTGGAGTCTGGAAGATGTGACCGCAAGTGATAAAAATATGTGGCGGGATTAATAGACT
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CAAAGACTCCAGTTAATAAGAACCAGCATAAGAGAGAAAATACTACTACGCCAAATCGTTACACTACACC
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TATCACTGTGCTCACCAGGAGCAAAGGAAGGGTTCTGCCAGAGACGGGCCAGAAAGACTAAAGCTTCCAC
TATAATGTGACTACAACAGATTAGTGAATCCAGATCAACTGTTGAATGAAATAATGTCTATTCTCCAA
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GACAATGCAATTTGAATTAGAAGTGTGCCAGCTTCAAAAACCCGATGTGGTGGGTATCAGGAGGCAGCGG
CTTAAGGGCGATGCCTGGGTTTACAAAAGATTAGTGAAGACATCCTATCTAGCTGCAAGGTA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC204245 protein sequence
 Red=Cloning site Green=Tags(s)

MKDYDELLKYYELHETIGTGGFAVKVLACHILTGEMVAIKIMDKNTLGSDLPRIKTEIEALKNLRHQHIC
 QLYHVLETANKIFMVLEYCPGGELFDYIISQDRLSEETRIVFRQIVSAVAVVHSQGYAHRDLKPENLLF
 DEYHKLKLIIDFGLCAKPKGNKDYLQTCGSLAYAAPELIQGKSYLGSEADVWSMGILLVYLMCGFLPFD
 DDNVMALYKKIMRGKYDVPKWLSPSSILLQQLQVDPKKRISMKNLLNHPWIMQDYNYPVEWQSKNPF
 HLDLDDCVTELSVHHRNRQTMEDLISLWQYDHLTATYLLLLAKKARGKPVRLRLSSFSCGQASATPF
 KSNNWSLEDVTASDKNYVAGLIDYDWCEDDLSTGAATPRTSQFTKYWTESNGVESKSLTPALCRTPANKL
 KNKENVYTPKSAYKNEEYFMPEPKTPVNKNQHKREILTTPNRYTTPSKARNQCLKETPIKIPVNSTGTD
 KLMTGVI SPERRCRSVELDLNQAHEETPKRKGAKVFGSLERGLDKVITVLTRSKRKGSAARDGPRRLK
 LHYNTVTTLRVNPQDLLNEIMSILPKKHVDFVQKGYTLKCQTQSDFGKVTMQFELEVCLQKPDVVGIR
 RQRLKGDAAVYKRLVEDILSSCKV

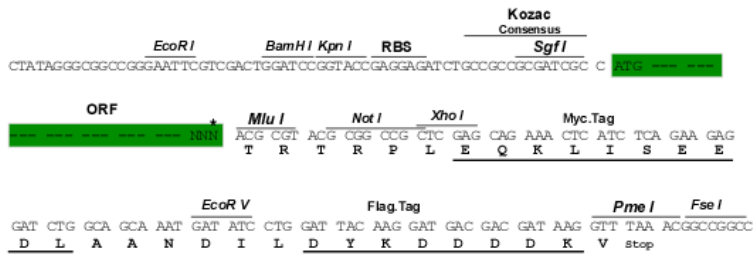
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6199_f08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

ACCN: NM_014791

ORF Size: 1953 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_014791.2](#), [NP_055606.1](#)

RefSeq Size: 2486 bp

RefSeq ORF: 1956 bp

Locus ID: 9833

UniProt ID: [Q14680](#)

Cytogenetics: 9p13.2

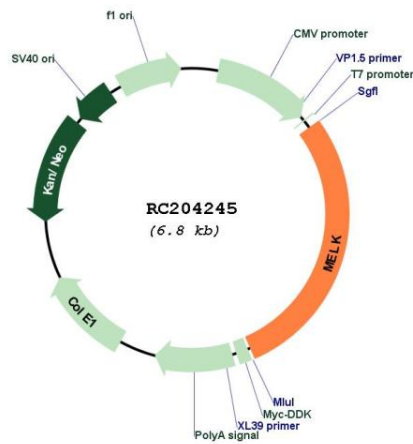
Domains: pkinase, TyrKc, KA1, S_TKc

Protein Families: Druggable Genome, Protein Kinase

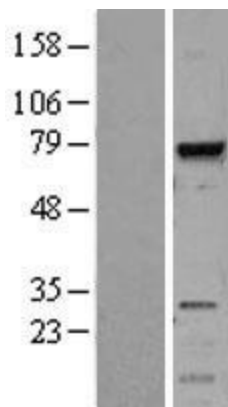
MW: 74.6 kDa

Gene Summary:

Serine/threonine-protein kinase involved in various processes such as cell cycle regulation, self-renewal of stem cells, apoptosis and splicing regulation. Has a broad substrate specificity; phosphorylates BCL2L14, CDC25B, MAP3K5/ASK1 and ZNF622. Acts as an activator of apoptosis by phosphorylating and activating MAP3K5/ASK1. Acts as a regulator of cell cycle, notably by mediating phosphorylation of CDC25B, promoting localization of CDC25B to the centrosome and the spindle poles during mitosis. Plays a key role in cell proliferation and carcinogenesis. Required for proliferation of embryonic and postnatal multipotent neural progenitors. Phosphorylates and inhibits BCL2L14, possibly leading to affect mammary carcinogenesis by mediating inhibition of the pro-apoptotic function of BCL2L14. Also involved in the inhibition of spliceosome assembly during mitosis by phosphorylating ZNF622, thereby contributing to its redirection to the nucleus. May also play a role in primitive hematopoiesis.[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for RC204245



Western blot validation of overexpression lysate (Cat# [LY402376]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204245 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).